

CLAIMS:

1. In a fuel rail assembly (10) for an internal combustion engine comprising; an elongated conduit (11) having a longitudinal fuel passage (16) therein, a fuel inlet pipe (12) fixed to an end or a side of said conduit, and a plurality of branch pipes (14) vertically fixed to said conduit, characterized in that:

the former end of each branch pipe is adapted to communicate with said fuel passage,

the rear end of each branch pipe is provide with a connecting member (18) for receiving a tip of a fuel injector (26),

the wall of said conduit is provided with holes (21) for receiving said former ends of said branch pipes,

around each hole an inner collar (23) and an outer collar (22) are integrally formed with said conduit wall, and

each branch pipe is fixed to said collars by brazing or welding.

2. A fuel rail assembly as claimed in claim 1, wherein said conduit has a circular section, and at least each peripheral area (60) around said outer collar (62) is shaped into a flat plane.

3. A fuel rail assembly as claimed in claim 1, wherein an inside tip of each branch pipe extends into said conduit at the same level or deeper level relative to the level of the tip of said inner collar.

4. In a fuel rail conduit (11) having a longitudinal fuel passage (16) therein and a plurality of branch pipes (14)

thereon, characterized in that:  
the wall of said conduit is provided with holes (21)  
for receiving the former ends of said branch pipes,  
around each hole an inner collar (23) and an outer  
collar (22) are integrally formed with said conduit wall.

5. A fuel rail conduit as claimed in claim 4, wherein said  
conduit has a circular section, and at least each peripheral  
area around said outer collar is shaped into a flat plane.

6. In a forming method of a fuel rail assembly (10)  
including an elongated conduit (11) having a longitudinal  
fuel passage (16) therein and a plurality of branch pipes  
(14) thereon, characterized in that the forming method  
comprises the steps of:

drilling holes (21) on the wall of said conduit  
utilizing a special drilling tool for receiving said  
branch pipes, thereby forming an inner collar (23) and  
an outer collar (22) around each hole simultaneously  
with the drilling work,  
inserting each former end of said branch pipe into  
the corresponding hole, and  
fixing each branch pipe to said collars by brazing or  
welding.

7. A forming method of fuel rail assembly as claimed  
in claim 6, wherein said conduit has a circular section,  
and further includes a step of forming a flat plane (60)  
on each peripheral area around said outer collar.

8. A forming method of fuel rail assembly as claimed  
in claim 6, wherein said inserting step further includes  
a step of forwarding the inside tip of each branch pipe

into said conduit at the same level or deeper level relative to the level of the tip of said inner collar.

9. In a forming method of a fuel rail conduit (11) having a longitudinal fuel passage (16) therein, characterized in that the forming method comprises the step of drilling holes (21) on the wall of said conduit utilizing a special drilling tool for receiving said branch pipes thereby forming an inner collar (23) and an outer collar (22) around each hole simultaneously with the drilling work.

10. A forming method of a fuel rail conduit as claimed in claim 9, wherein said conduit having a circular section, and further includes a step of forming a flat plane (60) on each peripheral area around said outer collar.